

Best Practices vis-à-vis water for households within a layout for Bangalore

The below Best practices are for households in a gated layout in Bangalore. They are especially relevant in the context where the water sourcing, supply and management is in the hands of the layout and there is no connection to the BWSSB. Principles of these best practices are applicable also in any household context of Bangalore whether or not they are connected to BWSSB piped water supply and sanitation.

Roofing Practices

- Ensure Roofing material does not leach toxics into falling rainwater
- Any roof gardens should not use chemical fertilizers and pesticides
- Keep roof clean from leaf fall.
- Roofs should be kept clean after use for parties and get togethers
- Avoid excessive pet movement on the roof
- Avoid festival games like holy (colours) and bursting crackers on the roof.

Plumbing practices

- Plan atleast for dual plumbing at the supply end – One fresh water supply line and one treated waste water supply line. This means two overhead tanks – one for fresh water and another for treated waste water. (Take help from a good designer for these systems)
- Of course this is in addition to the hot water supply line from the solar water heater.
- Plan for a sump to capture rainwater run-off from the rooftop. Plan rainwater down take pipes so that it can easily be led to the sump.
- Ensure downtakes are not connected to the sanitary connections.
- Plan for dual waste water plumbing to separate grey water and black water.
- If storages can be designed and built in at first floor levels, try and integrate them to reduce overall pumping.

Water efficiency and fixtures

- Choose taps with lower litre per minute discharge ratings. Use foot pedal taps when possible they control water wastage very effectively.
- Choose showers with lower litre per minute discharge ratings.
- Choose front loading washing machines, use shower caps for kitchen dish wash area.
- Choose high water efficiency dish washers.
- Use High efficiency dual flush systems in case of fresh water for flushing. However use simple part flush systems when grey water reuse is being done. This is the single most important fixture that can save a lot of water.
- There are various products in the market – make an informed choice and give water efficiency prime importance while choosing products.

Rainwater harvesting, recharge well and sumps

- Harvest your rooftop water to your sumps or into a sintex tank or “rain barrel”
- Try to ensure you have a separate tank/sump for rainwater. If this is too expensive ensure that your water supply plumbing into the sump is such that life line water is maintained in the sump but there is always free storage space for rainwater during the rainy season.
- Try and use the first rain separated water into a garden.
- Ensure overflow mechanisms for the storages, and lead the overflow into a recharge well unless the site sits on a very rocky area.
- As a thumb rule the recharge well needs to be 20 feet deep and should not be filled up with gravel/stones. Cover the recharge well in a way that it poses no safety hazard but can be opened when necessary. Don’t locate recharge wells too close to septic tanks, soak pits or basements.
- Design paved areas and garden areas in a way that the rainwater runoff from these lead to the recharge well.

Groundwater use

- If there is a water connection from the layout which is supplying water from borewells, avoid drilling private borewells.
- If you already have dug a borewell, minimize its usage.
- Meter your borewell and maintain meter readings at regular intervals.
- Get yield tests done annually for your borewell and choose high efficiency pumps for the same.

Water quality and treatment

- Get your different water sources tested through a lab atleast once a year. (i.e. borewells, tanker, rainwater etc)
- Use treatment devices at the household level judiciously – ask for independent expert advice on what kind of treatment is necessary based on water quality test reports.
- If there are treatment devices like Reverse Osmosis, Softenizers try and reuse the reject water for purposes such as car wash and swabbing the floor. Do not discharge them into the toilets.

Grey water reuse and Waste water treatment

- Try and treat grey water separately onsite through a system such as DEWATS and store the treated grey water to be used for flushing.
- Make arrangements to pump this treated grey water to the overhead tank for treated grey water. This line should be connected to the flushes. Design a back up source of water for flushes (consult designers).
- Try and treat black water also through a DEWATS system.

- If a sanitation connection is available, both the grey-water and waste-water lines should be connected to the sanitation connection as a back up. This connection can be controlled through a valve system.
- Use the excess treated waste-water for landscaping requirements.

Good Solid waste management

- Segregate your solid waste and compost organic waste – use the compost for your gardens.
- Do not throw plastic or other dry wastes into the storm water drains. Ensure proper disposal of the same.

Landscaping

- Try and create a landscape that requires less water (avoid lawns).
- Choose native trees and productive food crops such as fruits and vegetables.
- Do not use chemical fertilizers and pesticides for the landscapes.

Behavioural Changes during occupancy

- Be conservative in water use – foster frugal water usage.
- Use chemically less intensive cleaning methods – avoid excessive use of detergents and anti-bacterials.
- Lighter anti-bacterials are better.